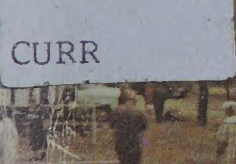


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North of Sixty—Canada's Advancing Frontier

REGIONAL STUDIES OF CANADA

# **NORTH of SIXTY** *Canada's Advancing Frontier*

*Doreen Margaret Tomkins*

*with George S. Tomkins*

*and Neville V. Scarfe*

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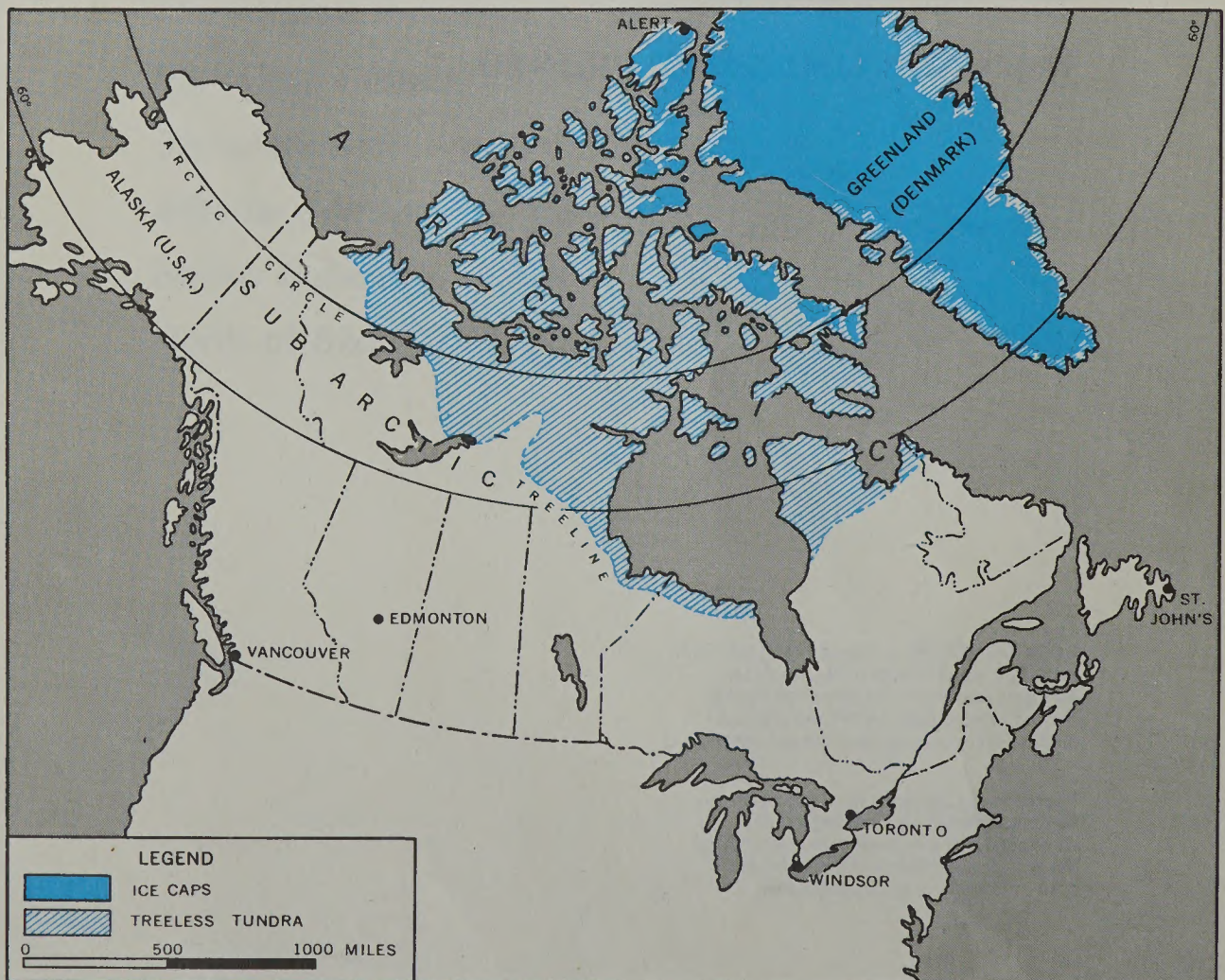
# NORTH of SIXTY



## *Canada's Advancing Frontier*

Most Canadians live within 200 miles of Canada's southern boundary. We have noted that Edmonton is much further north than any other large Canadian city. Figure 10-1 shows that Edmonton is not even in the northern part of Alberta. Beyond the northern boundaries of the Canadian provinces, the Yukon and the North West Territories stretch for hundreds of miles. For someone living in Aklavik, the journey south to Edmonton is as far as Miami, Florida, is for a Torontonian. In Figure 10-1 measure the distance from

10-1. Ice-caps, tundra, and forest cover thousands of square miles in the Canadian Northland.







10-2. Settlements, roads, railways, and minerals of the Northland.

Windsor, Canada's most southerly city, to the most northerly settlement at Alert. Where would a journey of the same distance west of Windsor finish? Few people realize that Canada extends as far in a north-south direction as it does from east to west.

The northern parts of seven Canadian provinces can rightly be included in the Northland. However, for convenience, we shall consider only those areas north of 60°N. in this chapter.

### Huge areas with few people

A glance at Figure 10-1 shows that the Northland is many times larger than the thickly settled areas of southern Canada. Yet in all this vast area there are no more people than live in Guelph, Ontario — only one fiftieth as many as live in Greater Toronto.

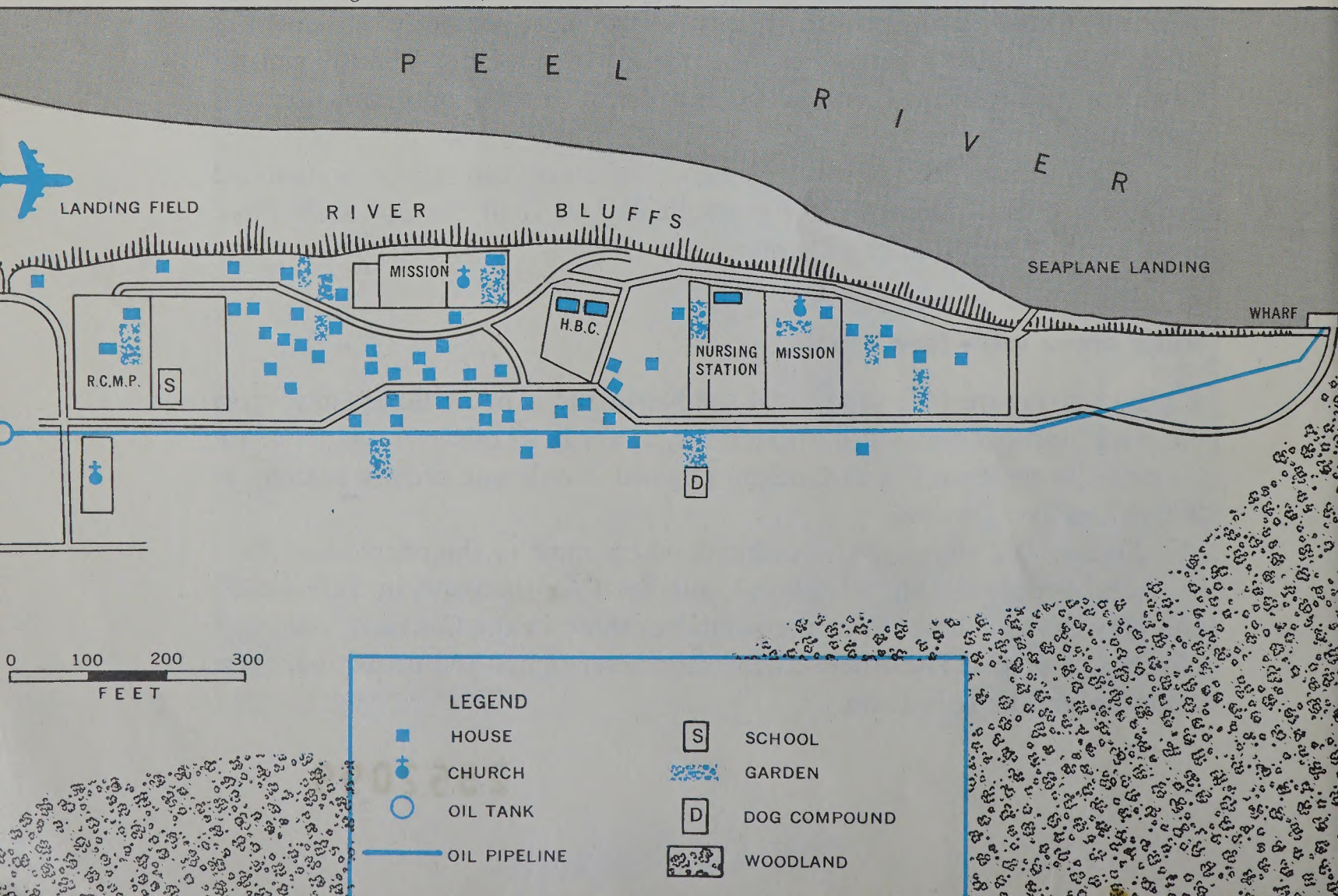
Figure 10-2 shows the settlements where most of the people live. Five thousand people live in Whitehorse, another four thousand in Yellowknife and Hay River. These towns are similar to those in the Canadian Shield of Northern Ontario. The other settlements are very small and usually have few white people living in them.





10-3. The tundra in summer (National Film Board).

10-4. A large-scale map of Fort McPherson, North West Territories.





## Living in the Northland

Figure 10-1 shows how the *tree-line* divides the Northland into the *Arctic* and the *sub-Arctic*.

The land north of the tree-line, where weather conditions are too severe for trees to grow, is known as the *tundra*. Figure 10-3 shows how the tundra looks in summer. Describe the scene. For nine months of the year the land is frozen hard with a thin snow cover. Figure 10-13 shows how it looks at Baker Lake in winter.

South of the tree-line, the trees gradually become larger and thicker, until the coniferous forest resembles that in Northern Ontario. Here is a description of how it looks from the air:

I began to wonder whether I was gazing down on an immense lake full of small islands, or whether it was land dotted with thousands of lakes, for there seemed to be as much water as land.\*

Because of the severe climate and the short growing season, the trees are smaller and of poorer quality than those further south. They supply timber for local use and support a small lumbering industry.

### Life in a Northland clearing — Fort McPherson, N.W.T.

Figure 10-4 is a large-scale map of a sub-Arctic settlement on the Mackenzie delta. With more than 400 people, it is one of the larger villages in the Northland. Most of the people are Indians who make their living by trapping.

Here is how a white school teacher described her first view of Fort McPherson:

How tiny it looked in that immensity of forests and lakes! It was just a clearing on the banks of the mile-wide Peel River, with some fifty unpainted log cabins and five groups of painted buildings which were obviously the premises of white people. . . .

As soon as I reached land I was greeted by the only white woman in the settlement. She was the wife of the Hudson's Bay trading post manager. . . .

There were, of course, no roads, though there were a number of paths . . . radiating from the Hudson's Bay Company store.

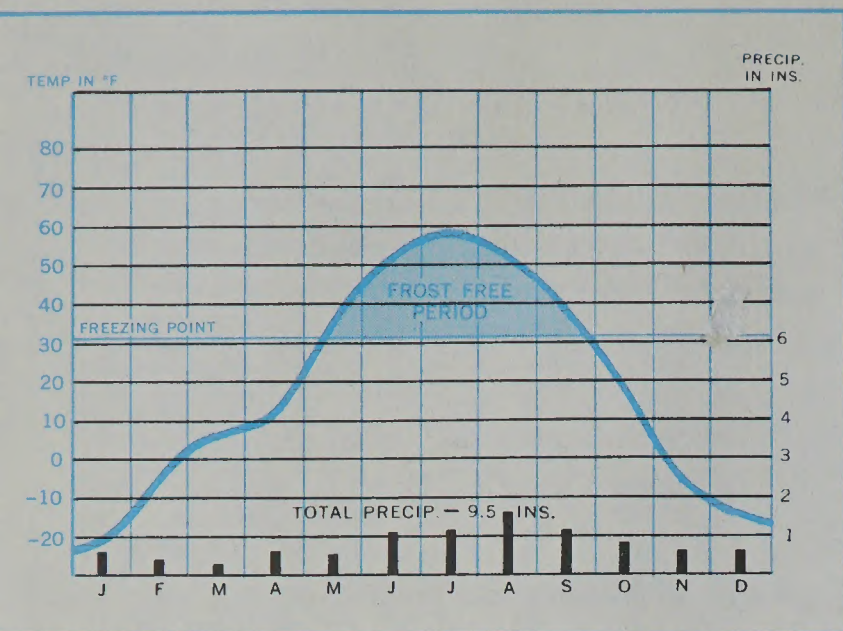
I was astounded when I went into the Company's store to find such a modern and well equipped place. Practically everything one could possibly want was available there, only, of course, the prices were high. Everything is brought in by the annual supply ship which makes the long and hazardous journey from Waterways, Alberta, to the Arctic Ocean.\*

1. How do people, supplies, and mail reach Fort McPherson? Why are prices high?

2. In Figure 10-4 find the groups of buildings maintained by white

\*Quoted from *Schoolhouse in the Arctic*, by Margery Hinds, London, Geoffrey Bles, 1958, pages 21-22.



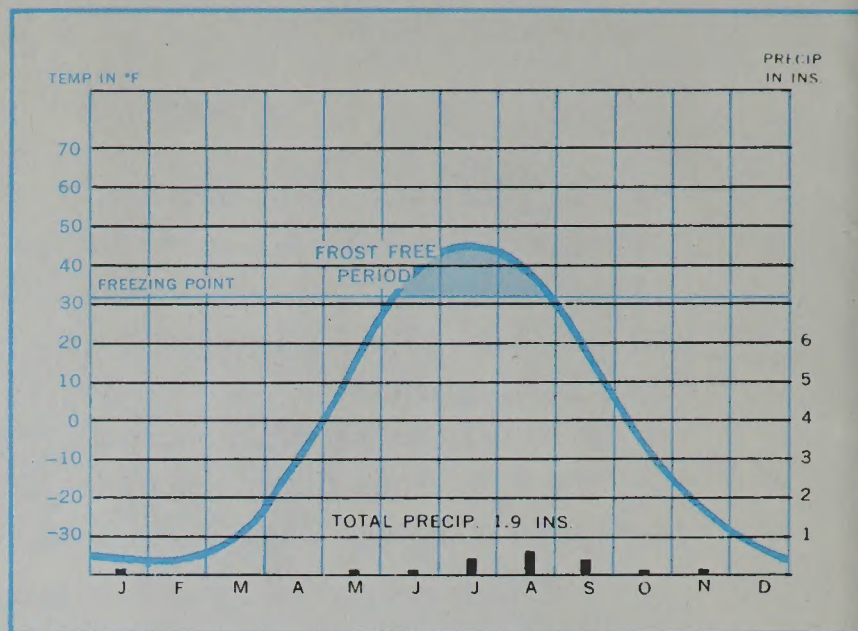


10-5A. Fort McPherson

Highest temp. ever recorded.....92°F.

Lowest temp. ever recorded..... -67°F.

Average length of frost-free period..... 73 days



10-5B. Eureka

Highest temp. ever recorded.....67°F.

Lowest temp. ever recorded..... -63°F.

Average length of frost-free period..... 46 days

10-5. Climatic graphs for two stations in the Northland.

10-6. A view of Fort McPherson (Department of Northern Affairs and National Resources).





people working in this area. It is sometimes impossible to find workers to fill these jobs and the buildings are often empty. When the teacher arrived, the R.C.M.P. post and one of the missions were both unoccupied.

3. What fuel is used in the settlement? Each summer a barge brings a year's supply of oil to Fort McPherson. How is it stored? Figure 10-5 is a climate graph. Why is a great deal of heating required in the winter? For how many months is the average temperature below freezing? Fort McPherson is north of the Arctic Circle. For several weeks the sun does not appear at all and for months there are only a few hours of daylight each day. Children go home from school at noon by moonlight. Suggest why wind-charged batteries are used to save fuel in providing electric light.

4. How long is the frost-free season? How high are summer temperatures? In the long, warm summer days plants grow quickly if there is sufficient soil. What evidence does Figure 10-6 give of this? Here is how one visitor described his surprise at the warmth and the plant life he found in the Northland in summer:

Although I was so near the Arctic Circle and the supposedly barren lands . . . the grass grew to a height of six feet. . . . The countryside was clothed with Alaska spruce and with tall, white trunked birches. Wildflowers were everywhere—forget-me-nots, heliotrope, Iceland poppies, and many others. And another hot day, with the temperature in the nineties could be expected. Yet the ice was not far away. Where the telephone line was visible, it was carried on tripods where the permafrost made digging a hole a major operation.\*

In some places gardeners have brought in soil so that they can grow some fruits and vegetables. Settlements such as Fort McPherson on the Mackenzie delta are fortunate because the river has deposited soil which has been brought down in times of flood. How many gardens are there in the village? In settlements where no gardening is possible, fresh produce is available only in the few weeks after the arrival of the supply ship. How often does the supply ship call at Fort McPherson? Why are perishable foods not brought in by air?

### **"Rat Sunday"**

On the Mackenzie delta there is a special type of Harvest Thanksgiving. It is held in June and the offertory is made in muskrat skins. The fur of these animals is the chief source of wealth in this area. During the winter the Indians visit their trapping grounds and look for the mounds of ice pushed up by muskrats when they make breathing holes. They mark them with sticks so that they can find them again. Early in March the whole family sets off by toboggan for a camping and "ratting" season. The children help set traps,

\*Quoted from *Return to Canada*, by J. S. Gowland, London, T. Werner Laurie Ltd., 1957, page 107.



mother usually skins the animals, father makes stretchers and dries the skins on them.

This is a very rich fur-bearing area. Mink, otter, beaver, ermine, lynx, marten, and fox are all caught, as well as muskrat. A trapper may make thousands of dollars in a good year. Then he gives many skins on "Rat Sunday". In a poor year, if the fur supply is not good or the price of skins is low, he may earn very little.

### **Trying to solve some of the problems of Arctic living**

Figure 10-7 shows part of the Mackenzie delta. What fraction of the area is covered by water? How has the land in the picture been formed? What problem faces the people of Aklavik every spring?

Aklavik, the centre of the muskrat industry, was the most important centre of the Canadian Arctic. As a religious, educational, medical, and government centre it served the whole Arctic. However it is built on frozen

10-7. Aklavik on the Mackenzie delta (National Film Board).





10-8. The new school at Inuvik is serviced by Utilidor (National Film Board).



mud. When the surface melts, due to summer sunshine or the heat of buildings, the water cannot drain away because of the frozen sub-soil. Great pools of water and mud result. The mud is not a secure foundation for buildings and is quickly being worn away by the river. In spring the whole area is subject to flooding.

Drainage and permafrost are problems in all Northland settlements. In some places piles of planks are kept especially to be thrown down for wooden walks when the mud is at its worst. Scientists have tried to find an answer to this problem. Figure 10-8 shows the new school at Inuvik. Suggest why this building has no basement. The long box-like structure in the foreground is a *utilidor*. It is carefully protected from cold and it contains pipes which carry hot water, cold water, and sewage. Why is it an advantage to have the hot and cold water pipes close together? The building is heated by the hot water, and has hot and cold running water and indoor plumbing.

Utilidors service public buildings, such as the school and hospital, and some government owned houses. They stand several feet above the ground, so crossing them is a problem. Every time a road or pathway crosses one, an overpass must be built. The greatest problem is that it costs \$200.00 to build one foot of utilidor. Only a very wealthy person could afford to build a private house "on the utilidor". Most people in Inuvik live in houses similar to those in all other Northland settlements.

Inuvik itself was carefully chosen so that it had good transportation facilities (by water and air), a good water supply, and a pleasant, well drained location. It was intended to replace Aklavik, but many people have remained in the old town because the trapping conditions are better there. Inuvik solved some of the problems. It has produced some new ones. It represents an effort to conquer some of the great problems of living in the Northland, and marks a stage in the development of this difficult country.





10-9. Packing up Chilkoot Pass—the Trail of '98 (Public Archives of Canada).

### **The lure of gold**

Figure 10-9 is a famous photograph. For two years an unending line of men packed their goods over Chilkoot Pass. Why was it a very difficult journey? Each one hoped to make his fortune by mining gold in the Klondike. For a short time the city of Dawson had as many people as live in the entire Northland today. Many fortunes were made before the best of the ores were worked out and most of the people left. Dawson is one of the world's most famous ghost towns and has become a tourist attraction. How do people reach Dawson today?

Refer to Figure 10-2 and list the minerals that are important in the Northland. Where is gold mined? What other metals are found? What source of power is available in the Mackenzie Valley? Most of the Northland has never been fully explored and mapped. There may be many other mineral reserves. Why is prospecting difficult? We know that there is an enormous iron deposit in the Yukon area. It is three hundred feet thick and



need only be shovelled up from the surface. But it would have to be shipped 600 miles to the nearest open water port. A special railway would have to be built. Where can Canadian steel plants obtain iron ore more easily. Why was a railway to Pine Point recently constructed? This new line brings a large area of the Northland within a reasonable distance of rail transportation and may lead to the development of other centres. Only when ores are in short supply will it become profitable to spend the hundreds of millions of dollars necessary to work the more remote ores.

### **Travel — the Northland's greatest problem**

If you were going to the Northland you would probably go by air, perhaps in a great jet aircraft landing at Frobisher Bay on its way to Europe, or in a small passenger plane on its regular route to Aklavik. Almost all the settlements in the Northland are served by regular, though sometimes infrequent flights. Many other people travel in private planes and helicopters. Small bush planes are often hired by scientists and prospectors. Doctors and nurses sometimes reach emergency cases in this way. Wealthy fishermen fly into the north either in their own planes or in those provided by fishing resorts.

What weather conditions often make flying dangerous in the Northland? Navigation is hazardous too. In winter it is hard to tell the difference between land and water. Lack of landmarks such as roads and settlements makes map-reading difficult at any season. The compass is not reliable in areas so near the Pole.

Flying is expensive. A pound of candy can be sent from Toronto to Vancouver for 30 cents, but to send the same package by air costs 80 cents. Only very small items can be carried by air at a reasonable cost. Imagine what it would cost to transport all the things your family buys in a year — food, clothing, furniture, toys, and so on — by air. Nevertheless, air transport has done more to help man live in the Northland than anything else.

### **Why is land transportation so difficult?**

In Figure 10-2 count the number of settlements that can be reached by road or rail. How does this map help to explain why most visitors to the Northland arrive by air?

In September, 1960, it became possible for a family living in Yellowknife to drive to another town. Before this they could only leave their home town by airplane or by boat. The journey to Edmonton on the new Mackenzie Highway is 970 miles long. On the way the driver passes through less than a dozen settlements — most of them only a small cluster of buildings. The Mackenzie River must be crossed by ferry in summer and by ice bridge in





10-10. Barges on the Slave River (Department of Northern Affairs and National Resources).

winter. For three months of the year during the spring and fall the road is closed. Why is it difficult to build and maintain roads under these conditions ?

The following list shows how food prices in Yellowknife changed as a result of the opening of the Mackenzie Highway.

	<u>1959</u>	<u>1961</u>
1 quart of milk	70 cents	37 cents
1 dozen eggs	1 dollar	60 cents
1 head of cabbage	65 cents	45 cents

Heavy freight such as refrigerators and stoves can be moved most cheaply by water. Figure 10-10 shows barges on the Slave River. Unfortunately the rivers are frozen for more than half the year. Suggest why there are more settlements in the Mackenzie Valley than in any other part of the Northland.

Dog teams have been used for centuries and are still the chief method of travel in many parts of the Far North. Eskimos, hunters, Mounties, doctors, teachers, and others often travel in this way to places that can be reached by no other means.

Why do families living in the Northland think that transportation is their greatest problem ?





10-11. Everyone gathers to watch the arrival of the supply ship on a summer day in Baffin Island. How can you tell that the temperature is cold? (National Film Board).

### **Living in the treeless tundra of the Arctic**

The photograph in Figure 10-11 shows the most exciting event of the year for the people who live in the Arctic settlements. When the great news spreads around the village, “The ship! The ship!” everyone grabs some heavy clothing and rushes outside to see the supply ship come in. She looks enormous beside the tiny fishing craft which are usually drawn up on the shore. Some people become so excited that they climb into their boats and paddle out to the side of the ship. The churning of the engines, the clanking of the anchor, and the crashing of the winches echoes over the water and among the rocky mountainsides. Soon boxes are unloaded onto the shore. A whole year has passed since the last delivery of supplies. Packing away the groceries is a big job, but everyone is eager to help. Children open up a whole year’s supply of cereal so that they can find the toys hidden inside. New clothes, new toys, books, and mail are all delivered on this one day. As soon as the goods are unloaded the ship takes on the year’s catch of furs. Sometimes an official gets on or off. Then everyone gathers on the shore again to watch the boat leave. They know that it will be many months before they see anyone from “outside” again. If they have forgotten anything they must do without it until the next year’s delivery. The tremendous excitement is soon over. Once again the bay is quiet and deserted. The people go back to their homes and start sorting out all the goods they have received.



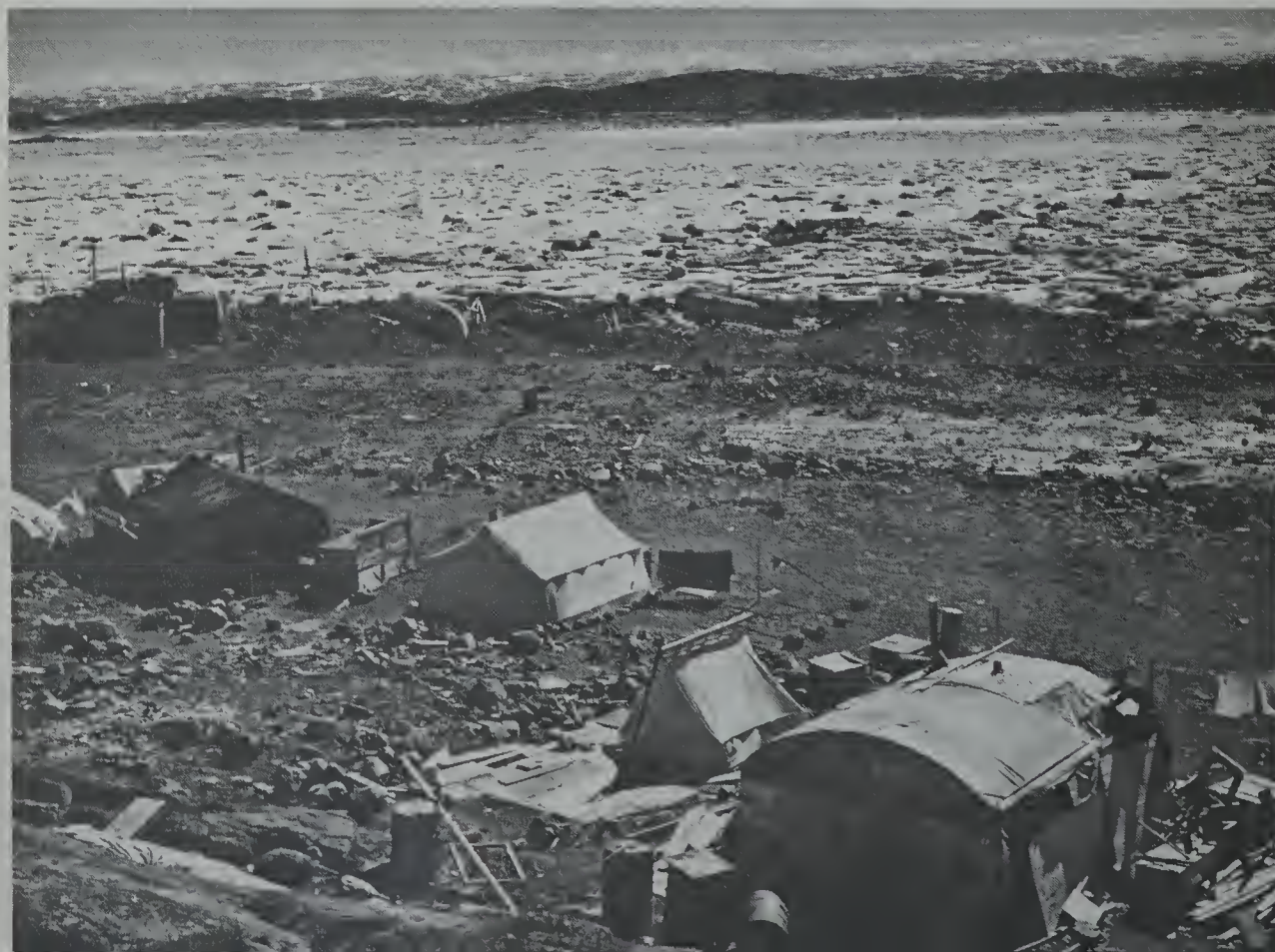


10-12. The settlement at Cape Dorset on Baffin Island in summer (National Film Board).

10-13. Baker Lake in winter (National Film Board).



10-14. An Eskimo summer camp on Baffin Island (Imperial Oil Limited).





**What is it like on the other days of the year?**

Figure 10-12 shows the settlement at Cape Dorset in summer. About twenty non-Eskimos live here all year round. The Eskimo population varies greatly. About 350 pitch tents in the area in summer but most are away hunting during the winter. How does the photograph suggest that this land is unsuitable for farming or lumbering? Figure 10-13 shows the settlement at Baker Lake in winter. The red-trimmed white buildings of the Hudson's Bay trading post are always one of the most noticeable features in an Arctic village. Above the trading store is the fur loft. In July and August the shelves of the store are laden with all kinds of goods while the loft is empty. Throughout the year Eskimo and Indian trappers bring furs in exchange for food and



10-15. Inside the trading post at Baker Lake (National Film Board).

ammunition. By May and June the loft is full of furs but the store shelves are getting empty. The fuel and cartridges are kept in separate buildings, in case fire should destroy the valuable furs and supplies in the store. Nearby is the trader's house. There is usually a church and a missionary. Many settlements have an R.C.M.P. post and a Northern Service Officer. His job is to help the Eskimos to fit in with modern ways of living. Most posts have a weather station and some have nursing facilities and perhaps a school.

In summer many of the Eskimos come to the villages and put up tents. How does the campsite in Figure 10-14 show that Eskimos have adopted white men's goods and customs? During the short summer they prepare for the winter ahead. Figure 10-15 shows Eskimos trading in the store. They never learned written arithmetic in school and paper money is not much use.



to them. So the trader gives them sticks to show the value of the furs they brought in. As the purchases are made sticks are moved aside so that the Eskimo can tell how much he has spent. When he has bought the essentials of food, clothing, and ammunition, there is great excitement as he decides what extra treats he may buy. He may choose a length of brightly colored cloth, or a mouth organ, a new knife, or perhaps tobacco.

When the days shorten and winter sets in the Eskimos depart for their winter hunting grounds. Just a few people are left. They may have to stay indoors for days at a time while the blizzards howl outside. They vary their meals with sealmeat, Arctic char, and seaweed salad. Figure 10-5B is a climate graph for Eureka in the Arctic Islands. For how many months is the average temperature below freezing? What is the lowest temperature ever recorded? Here is a description of how such intense cold feels and what it does.

With the first breath . . . I choked and gasped and sputtered. In this temperature one's breath freezes as one inhales and less oxygen than usual is taken into the lungs. . . . As I stepped on (the snow) it tinkled musically like pieces of metal striking together.

Last night when we went to bed the windows on the inside were covered with frost an inch thick; the logs in the walls and the shakes in the roof, cracked like gunshots as they were split by the cold; and out on the lake the ice kept up an almost steady booming.

. . . . I was careful not to touch any metal, having learned from bitter experience that skin, especially moist skin, freezes fast and is sometimes peeled right off at the slightest contact with very cold metal.

. . . . if it is 55 or more below, when hot water is poured out of a window, it freezes solid before it reaches the snow level.\*

## Winter hunting with the Eskimos

For many centuries Eskimos have lived in the harsh conditions of the Arctic. It is possible for a well-trained hunter to live off the land. Seals, whales, fish, bear, and ptarmigan provide food. Clothing is made from the skin of fox, muskrat, wolverine, seal, and bear. The Eskimo can even make a cosy shelter from blocks of snow and ice. Seal oil provides fuel for the lamps to light and heat the tiny homes. Some Eskimos still live in this way, and all need to be able to provide themselves with food and shelter in an emergency.

The modern Eskimo who lives by hunting usually seeks an animal for fur value rather than food value. Figure 10-16 shows a hunter and his son with a white fox. They will not use this to make clothing. Nor will they eat the meat. They will take the fur to the trader and exchange it for groceries and

\*Quoted from *Driftwood Valley*, by Theodora C. Stanwell-Fletcher, Boston, Little, Brown and Co., 1946, pages 89-91.





10-16. This Eskimo will use the fur of this white fox to buy food for his family (National Film Board).



10-17. Eskimo and Indian children in the modern school at Inuvik (National Film Board).

clothing. When fur prices are high and supplies from outside are assured, living is easier for this Eskimo hunter. But if he cannot sell his fur for a good price, or if there is a shortage of imported food, he may be unable to provide the necessary food and clothing for his family.

### **A changing way of life**

Many Eskimos now have regular jobs. Workers are required on the Distant Early Warning Line, in mining developments and new airports. They find it strange to live in one place and to work regular hours. They have money to buy white man's clothes, houses, and food. About one tenth of the Eskimos now hold regular wage-earning jobs. Many others, while still living off the land, are making a regular cash income by selling carvings, prints, and seal-skin clothes. Reindeer herding and collecting eider down are being encouraged by the government. These are activities that can be carried on in the natural environment of the Eskimos' own country.

Figure 10-17 shows Eskimo children at school. Many live at the school all winter while their families are out hunting. They learn to read and write, but they are not learning how to be good hunters and how to make a living in the difficult conditions of their homeland. If they return to their families there are no newspapers and books. There is only an oil lamp to provide light in the long hours of winter darkness. There are many problems to be solved concerning the future of the Eskimos. Some prefer to continue in their old way of life and are moving to better hunting grounds further north. Others are changing more and more to a life like that of the white man.



## Tourism and defence — new aspects of life in the Northland

In the eighteenth century forts were built on the Atlantic coast because the settlers feared attack from the sea. A line of fortifications appeared on the southern frontier in the nineteenth century when Canada was at war with the United States. In the twentieth century radar defence systems have been built across northern Canada. Figure 10-18 shows why Canada now fears attack from the north. Why was it unlikely that Canada would be attacked from the north in the past?

Compare the distance of a flight from Vancouver to London over the pole and one following the 50°N. parallel of latitude. Why is the polar route preferred? Which countries are very close to Canada across the pole though they are far away by land and sea routes?

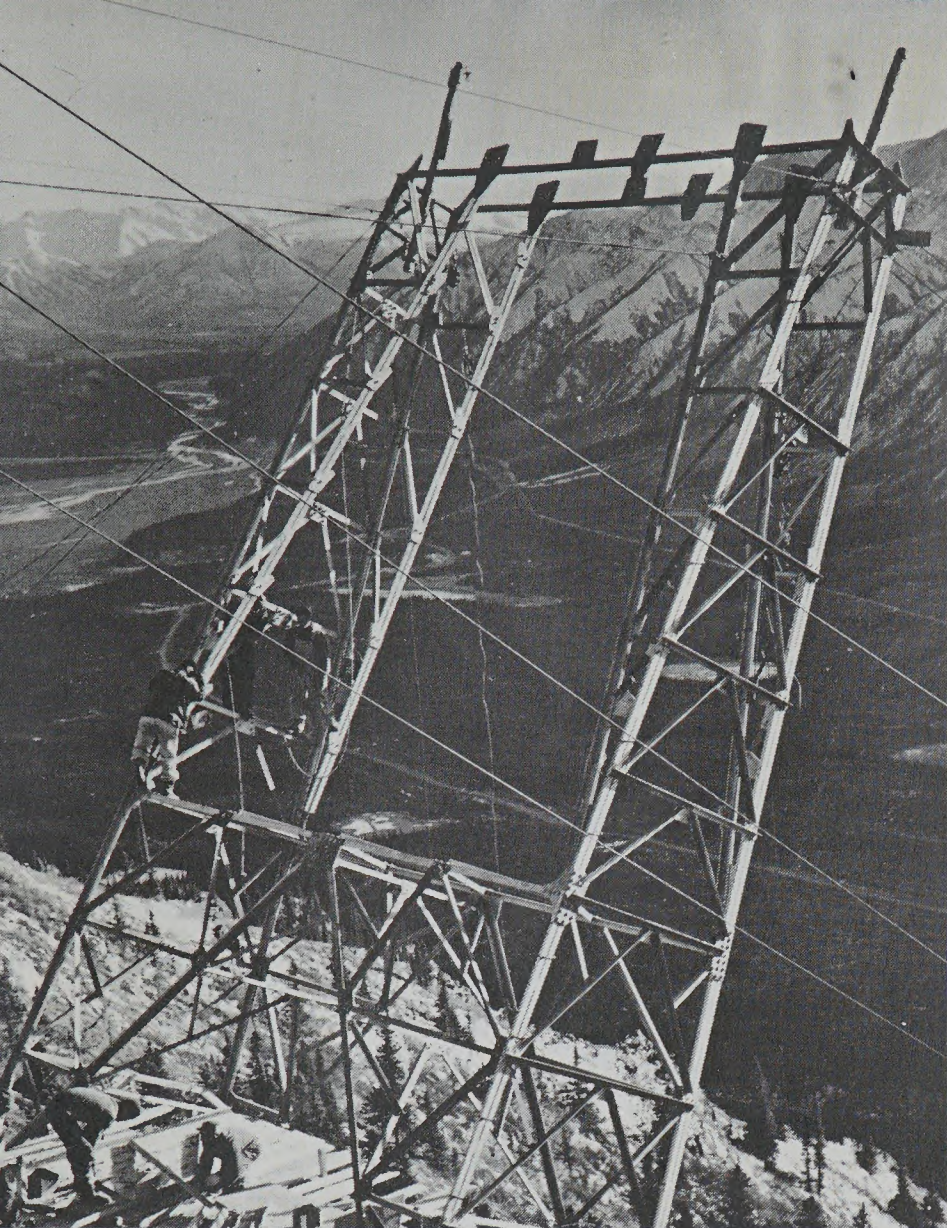
Work on the radar defence lines and on the microwave communication system has provided many jobs. How does Figure 10-19 show that work of this type is difficult in the Northland?

Figure 10-20 shows some fine specimens of Arctic char. Northern rivers and lakes are very rich in fish. Few of the millions of lakes have ever been fished by anglers. It is common for 300 pounds of trout to be caught in a single day on Great Bear Lake. Several tourist lodges have been opened in the Northland. Fishermen fly in either in their own planes or in those provided by the lodges. The industry is growing every year. If fishermen are

10-18. Air routes and defence lines in the Canadian Northland.







10-20 (Above). Sport fishing provides this Eskimo guide with a new source of income (National Film Board).

10-19. Installing a microwave communications system in the Yukon (Canadian National Railways).

allowed to take out an unlimited number of fish, or to injure those that are thrown back, the wealth of fish in the Northland will soon be greatly reduced. Fish grow slowly in the cold waters of the north. They must be conserved as a source of food and of recreation for the future. What advice could people in other fishing areas give the people of the Northland on how to conserve their fish?

### Topics for discussion

Review the descriptions and photographs in this chapter and discuss the following statements. Give reasons why you agree or disagree with them.

"The Arctic is a region of very heavy snowfalls."

"Transportation is the chief problem in the Northland."

"It never gets warm in the Northland."

"All Eskimos should learn to read and write."

"No plants can grow in the Northland."

"The Northland is flat and featureless."

"More people travel across the Arctic today than ever before."

"The Northland will soon have as many people as Southern Ontario." 19



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